

ABSTRACT OF THE DISCLOSURE

In general, in one aspect, the disclosure describes a switching device that includes a segmentation unit to receive data packets of variable size and to store the data packets as segments. The data packets received having a length greater than a maximum segment length are divided into multiple segments. A plurality of queues associated with destinations store the segments. The switching device also includes a scheduler to generate a schedule including a data path from at least one queue to an associated destination. A framer aggregates a plurality of segments to form a frame. The frame has a maximum frame length and may contain segments associated with different data packets. The segments are retrieved from the at least one queue. The switching device further includes a transmitter to transmit the frame to the associated destination. The segments within the frame are transmitted together.